

Recovery Plan Action Status

Plan Name: Lana'i Plant Cluster Recovery Plan

Plan Status: Final

Plan Date: 29-Sep-95

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(808)
792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	111	Identify all wild populations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Population Surveys	Contract	This is an ongoing action, as the status of the species and their threats change constantly. Two historical populations of Abutilon menziesii have been relocated on State/City and County lands on Oahu at Kalaeloa and on DOD lands at Lualualei.

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No common name (Tetramolopium remyi)	1	12133	Fence T. remyi populations	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc.	Management: Habitat Maintenance and Manipulation	Contract	This task has been completed for both populations on Lanai, even though one has now been extirpated.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	1217	Monitor fenced areas for ungulates	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc., U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	This task is current for all existing fenced areas.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	122	Develop feral herbivore removal programs	Discontinued	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the political climate in Hawaii at this time will not support island-wide eradication of nonnative ungulates, which are hunted for food.

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No common name (Tetramolopium remyi)	1	12323	Implement weed control for T. remyi population	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc.	Management: Habitat Maintenance and Manipulation	Contract	DLNR controls the alien plants within the immediate vicinity of the two populations of Tetramolopium remyi. Larger scale alien plant control is needed to maintain viable, reproductive populations.

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No common name (Tetramolopium remyi), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii)	1	1241	Develop fire protection plans	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Maui County Department of Fire Control, Hawaii County Fire Department	Management: Habitat Maintenance and Manipulation	Contract	
No common name (Tetramolopium remyi), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii)	1	1242	Implement fire protection plans	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Maui County Department of Fire Control, Hawaii County Fire Department, U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	1	1261	Ensure that native pollinators remain available	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has not been started because little is known about the pollinators of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	127	Protect sites from potential direct threats from humans	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc., Hawaiian Commercial & Sugar Co., Haleakala Ranch Co., Ulupalakua Ranch	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Volunteer	This task has not been started, as direct human activities do not appear to be a threat to these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	129	Maintain genetic stock	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Propagation	Contract	The existing ex situ collections are not genetically adequate for these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	23	Map alien vegetation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Geological Survey, Biological Resources Division	Research: Habitat Status	Contract	This task is being conducted for some alien species by the Maui and Molokai Invasive Species Committees and BRD's Hawaii Ecosystems at Risk, but a more concerted effort is needed.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	25	Study reproductive viability	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	The current knowledge has been gathered mainly for incidental observations during propagation, field surveys, and monitoring. More detailed experimental research is needed to fully understand this aspect of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	276	Determine impact of other diseases / pests	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Research: Predation	Contract	This is an ongoing task, as new threats are constantly entering the state and becoming established in natural areas.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	287	Determine control methods for other diseases and pests	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Research: Management Techniques	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has been abandoned until other diseases or pests are observed.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	311	Identify sites for expansion	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Internal Administrative	Sites have been selected by DLNR for reintroduction into small scale fenced areas for several species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	312	Identify material to be used for augmentation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	This task is limited based on material available in ex situ collections.
No common name (Tetramolopium remyi)	2	3138	Determine propagation methods for Tetramolopium remyi	Complete	Prior to FY 1995	FY 1995 - FY 1999	U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Acquisition	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	314	Determine reintroduction techniques	Partially Complete	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	321	Implement Expansion plans: Propagate ex situ	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	322	Implement Expansion plans: Prepare sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	323	Implement Expansion plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	324	Implement Expansion plans: Monitor and maintain new individuals	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	41	Investigate feasibility and desirability of introduction	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'olua'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	421	Identify sites for reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	
No common name (Tetramolopium remyi)	2	4226	Identify material for Tetramolopium remyi reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'olua'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	431	Implement reestablishment plans: Secure reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Acquisition: General	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	432	Implement reestablishment plans: Prepare reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	433	Implement reestablishment plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	434	Implement reestablishment plans: Monitor and maintain new populations	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	51	Determine number of populations needed for long term survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	52	Refine/revise downlisting and delisting criteria	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Other: Regulations	Contract	